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AN OMITTED CHAPTER OF THE LIFE OF A POPULAR POET.

The life of Robert Burns has been written by three men of various genius, Dr Currie, Mr Lockhart, and Mr Allan Cunningham, but in each case without any effort to render the narrative so minutely descriptive as the public curiosity respecting this extraordinary man would seem to require. Not one of these biographers appears to have deemed it necessary to visit the native district of the poet, in order to make inquiry respecting the incidents and features of his early life.

They were content, with regard to all the earlier and obscurer part of his existence, to take the short outlines supplied by himself, his brother, and his teacher—a series of narratives written while he was yet a comparatively nameless man, and therefore very properly general in their statements, but which ought long since to have been replaced by a more full and particular account of the rise and progress of a mind now acknowledged to be perhaps the most remarkable ever produced in our country. We were forcibly struck with these reflections, when, in the course of a late excursion in Ayrshire, we found ourselves for the first time perusing a faithful and graphic biography of Burns, in the recollections of several of his companions and friends who still survive. At the hazard of incurring some blame from our informants, we noted down a few of these reminiscences, and shall now present a selection from them, with the view of making our readers participants to a certain extent in the gratification we received on this occasion. It may be proper to premise, that, of what is here to be brought forward, we feel confidently assured of the general accuracy. There may be a few points liable to a slight revision, but there has been no wish in any quarter to mislead; and we believe the whole to be as near the truth as the distance of time and the nature of human testimony will allow.

It is little more than mentioned in the written memoirs, that Burns spent his nineteenth summer (1778) in the parish of Kirkoswald, in the southern and more primitive district of Ayrshire. His father was at this time the tenant of the small farm of Lochlee, in the parish of Tarbolton, in the comparatively remote district of Kyle. What seems to have suggested his going to Kirkoswald school, was the connection of his mother with that parish. She was the daughter of Gilbert Brown, farmer of Craigentoun, in this parochial division of Carrick, in which she had many friends still living, particularly a brother, Samuel Brown, who resided, in the miscellaneous capacity of farm-labourer, fisherman, and dealer in wool, at the farm-house of Ballochneil, above a mile from the village of Kirkoswald. This Brown, though not the farmer or gudeman of the place, was a person held to be in creditable circumstances in a district where the distinction between master and servant was, and still is, by no means great. His wife was the sister of Niven, the tenant; and he lived in the "chamber" or better portion of the farm-house, but was now a widower. It was with Brown that Burns lived during his attendance at Kirkoswald school, walking every morning to the village, where the little seminary of learning was situated, and returning at night.

The district into which the young poet of Kyle was thus thrown, has many features of a remarkable kind. Though situated on the shore of the Firth of Clyde, where steamers are every hour to be seen on their passage between enlightened and busy cities, it is to this day the seat of simple and patriarchal usages. Its land, composed of bleak green uplands, partly cultivated and partly pastoral, was, at the time alluded to,

occupied by a generation of primitive small farmers, many of whom, while preserving their native simplicity, had superadded to it some of the irregular habits arising from a concern in the trade of introducing contraband goods on the Carrick coast.* Such dealings did not prevent superstition from flourishing amongst them in a degree of vigour of which no district of lowland Scotland now presents any example. The parish has six miles of sea-coast; and the village, where the church and school are situated, is in a sheltered situation about a couple of miles inland.

The parish schoolmaster, Hugh Rodger, enjoyed great local fame as a teacher of mensuration and geometry, and was much employed as a practical land-surveyor. On the day when Burns entered at the school, another youth, a little younger than himself, also entered. This was a native of the neighbouring town of Maybole, who, having there completed a course of classical study, was now sent by his father, a respectable shopkeeper, to acquire arithmetic and mensuration under the famed mathematician of Kirkoswald. It was then the custom, when pupils of their age entered at a school, to take the master to a tavern, and implement the engagement by treating him to some liquor. Burns and the Maybole youth, accordingly, united to regale Rodger with a potation of ale, at a public-house in the village, kept by two gentlemanly sort of persons named Kennedy—Jean and Anne Kennedy—the former of whom was destined to be afterwards married to immortal verse, under the appellation of *Kirkton Jean*—and whose house, in consideration of some pretensions to birth or style above the common, was always called "the Laddies' House." From that time, Burns and the Maybole youth became intimate friends, insomuch, that, during this summer, neither had any companion with whom he was more frequently in company. Burns was only at the village during school hours; but when his friend Willie returned to the paternal dome on Saturday nights, the poet would accompany him, and stay till it was time for both to come back to school on Monday morning. There was also an interval between the morning and afternoon meetings of the school, which the two youths used to spend together. Instead of amusing themselves with ball or any other sport, like the rest of the scholars, they would take a walk by themselves in the outskirts of the village, and converse on subjects calculated to improve their minds. By and bye, they fell upon a plan of holding disputations or arguments on speculative questions, one taking one side, and the other the other, without much regard to their respective opinions on the point, whatever these might be, the whole object being to sharpen their intellects. They asked several of their companions to come and take a side in their debates, but not one would do so: they only laughed at the young philosophers. The matter at length reached the ears of the master, who, however skilled in mathematics, possessed but a narrow understanding and little general knowledge. With all the bigotry of the old school, he conceived that this supererogatory employment of his pupils was a piece of absurdity, and he resolved to correct them in it. One day, therefore, when the school was fully met and in

the midst of its usual business, he went up to the desk where Burns and Willie were sitting opposite to each other, and began to advert in sarcastic terms to what he had heard of them. They had become great debaters, he understood, and conceived themselves fit to settle affairs of importance, which wiser heads usually let alone. He hoped their disputations would not ultimately become quarrels, and that they would never think of coming from words to blows. And so forth. The jokes of schoolmasters always succeed amongst the boys, who are too glad to find the awful man in any thing like good humour, to question either the moral aim or the point of his wit. They therefore, on this occasion, hailed the master's remarks with hearty peals of laughter. Nettled at this, Willie resolved he would "speak up" to Rodger; but first he asked Burns in a whisper if he would support him, which Burns promised to do. He then said that he was sorry to find that Robert and he had given offence. It had not been intended. And indeed he had expected that the master would have been rather pleased to know of their endeavours to improve their minds. He could assure him that such improvement was the sole object they had in view. Rodger sneered at the idea of their improving their minds by nonsensical discussions, and contemptuously asked what it was they disputed about. Willie replied, that generally there was a new subject every day; that he could not recollect all that had come under their attention; but the question of to-day had been—"Whether is a great general or a respectable merchant the most valuable member of society?" The dominie laughed outrageously at what he called the silliness of such a question, seeing there could be no doubt for a moment about it. "Well," said Burns, "if you think so, I will be glad if you take any side you please, and allow me to take the other, and let us discuss it before the school." Rodger most unwisely assented, and commenced the argument by a flourish in favour of the general. Burns answered by a pointed advocacy of the pretensions of the merchant, and soon had an evident superiority over his preceptor. The latter replied, but without success. His hand was observed to shake; then his voice trembled; and he dissolved the house in a state of vexation pitiable to behold. In this anecdote, who can fail to read a prognostication of future eminence to the two disputants? The one became the most illustrious poet of his country; and it is not unworthy of being mentioned in the same sentence, that the other advanced, through a career of successful industry in his native town, to the possession of a large estate in its neighbourhood, and some share of the honours usually reserved in this country for birth and aristocratic connection.

The coast in the neighbourhood of Burns's residence at Ballochneil presented a range of rustic characters upon whom his genius was destined to confer an extraordinary interest. At the farm of Shanter, on a slope overlooking the shore, not far from Turnberry Castle, lived Douglas Graham, a stout hearty specimen of the Carrick farmer, a little addicted to smuggling, but with a worthy and upright member of society, and a kind-natured man. He had a wife named Helen M'Taggart, who was unusually addicted to superstitious beliefs and fears. The *steading* where this good couple lived is now no more, for the farm has been divided for the increase of two others in its neighbourhood; but genius has given them a perennial existence in the tale of *Tam o' Shanter*, where their characters are exactly delineated under the respective appellations of *Tam* and *Kate*. At Glenfit, near Shanter, there was a shoemaker named John Davidson, whose wife, Ann Gillespie, had acted as nurse to the mother of Burns, on which account

* "This business was first carried on here from the Isle of Man, and afterwards to a considerable extent from France, Scotland, and Gottenburgh. Persons engaged in it found it necessary to go abroad, and enter into business with foreign merchants; and by dealing in tea, spirits, and silks, brought home to their families and friends, the means of luxury and finery at the cheapest rate."—*Statistical Account of Kirkoswald*, 1794.

there was always a friendship between the two families. In the language of a local poet, John

— was a gash wee fadge body,
Stood on his shanks baith tight and steady,
As gleg's a hawk, as tough's a widdy;
Had gabby skill
To crack a joke wi' wit aye ready,
Out-owre a gill.*

We are informed by the same authority that, at Damhouse, likewise near Shanter, close by the shore, lived Hugh Brown, a miller, and eke Jock Niven, a blacksmith, two drowsy neighbours, to whom the well-known lines are applicable—

That, like melder wi' the miller,
Thou sat as lang as thou had siller;
That, every naig was ca'd a shoe on,
The smith and thee ga' roarin' fou on.

Living so near each other, and partaking of the same tastes, it was impossible that the four Carrick men here described should not have been endeared friends. What says our Maybole poet on this point?

Near neighbourhood right weel assisted,
To souther friendship that consisted
In drinking jorums, when they listed
Their placks to jingle;
In a short mile ilk might ha' rested
Atither's ingle.
Gau'n to the kirk, they whiles forgather'd,
And, warisin' sair wi' conscience, swither'd,
Till wi' o'ercoming drouth sin' bother'd,
The bell last croon
Gat them in Kirkton Jean's fast tether'd,
A snugly down.

There, we suppose, to drink "till Monday."

Graham dealt extensively in malt, which he supplied not only to many of the neighbouring hostelleries, but also to some of the taverns in Ayr. It was his business to go there once a week, not "on Monday," like the mautman of old Scottish song, to seek for "his sack and his siller," but on Friday, which was the market-day of the burgh. His friend Davidson, dabbling a little in the business of a tanner, had wares to dispose of and money to gather on the same day and in the same place; so the two would proceed to town together. As Graham had to call for liquor at every customer's house, by way of showing respect and gratitude, he had much more of that commodity at his disposal than he chose to make use of himself; and he was accordingly very glad when the Souter or any other friend went in with him to partake of it. In riding home late one night in the midst of a dreadful storm, Graham lost his bonnet, which contained his purse, and when he arrived at Shanter, could see no better means of excusing the circumstance to his superstitious wife than to state that it had been taken from him by a troop of witches and warlocks whom he had disturbed at their midnight orgies in Alloway Kirk. He afterwards found his bonnet in a place near the wayside, and the money within it; but the debt by which he had imposed on his wife was not forgotten.

One day, when the scholars of Kirkoswald had been favoured with a holiday, Burns went upon a fishing excursion with a few of the natives, including John Niven, the son of Mr Niven of Ballochneil, and his own bedfellow. While they were out at sea, the wind rose, and gave token of an approaching tempest, which made the company very uneasy, and alarmed even the men who were accustomed to fish those seas. The young poet rallied them on their fears, and said he was willing to stay where he was, while it blew off shore, although it should "blaw the horns aff the kye." They made nevertheless for the coast, and landed at the Maiden Heads, two large rocks which rise upon the beach at the farm of Shanter. As they proceeded homeward, the storm rose to its height, accompanied by thunder and deluges of rain. They therefore took shelter in Shanter farm-house, where they found that the gudeman was absent at Ayr market. Kate received them frankly, and in the course of conversation launched forth into a lament about the habits of her husband, his toping with the miller, smith, and souter, and his late home-comings from market, prouessing

late or soon.

He was found deep drowned in Doon.

Amongst other things, she spoke of Alloway Kirk, which she said he dreaded to pass at night, and yet he never on that account took care to come home an hour earlier. The poet and his friends staid with her till twelve o'clock, and then left her, still waiting, "a wae fu' woman," for the return of her husband.

It was probably some time after this that the affair of the bonnet took place. The story, having got abroad, occasioned much amusement, and Graham, wherever he went, was rallied about his adventure at Alloway Kirk. The people of the district who were engaged in the contraband trade, had a quarterly meeting for the arrangement of their accounts, and at these meetings there was usually much conviviality. At one which took place during Burns's residence in the country, he and the goodman of Shanter were brought together, and the latter was rallied most unmercifully by his friends about the story of the bonnet, the whole of which was minutely inquired into and made a subject of mirth. Thus was the youthful poet supplied with the best possible commentary upon what he had heard from Kate's own lips about her husband's practices. It is not to be doubted, we think, that the

circumstances and traits of life and character which on these two occasions came under his notice, were what supplied him with the materials of his inimitable tale of disablerie. Yet it is curious to learn from the tradition of the district, that the young poet who was now studying mankind with so much assiduity, and no doubt secretly delighting himself with the comic points of the characters of his compatriots, was afterwards reported by those very compatriots to have always appeared to them a heavy sulky sort of fellow. Youthful inexperience had probably made him silent amidst their boisterous talk, and we know well that, when not in the act of speaking, his countenance was sombre. Little did they imagine, that, under that dark brow, resided powers fitted to make the whole world party to their mirth.

At Ballochneil, Burns engaged heartily in the sports of leaping, dancing, wrestling, *putting* (throwing) the stone, and others of the like kind. His innate thirst for distinction and superiority was manifested in these as in more important affairs; but though he was possessed of great strength, as well as skill, he could never match his young bedfellow John Niven. Obliged at last to acknowledge himself beat by this person in bodily warfare, he had recourse for amends to a spiritual mode of contention, and would engage young Niven in an argument about some speculative question, when, of course, he invariably floored his antagonist. His satisfaction on these occasions is said to have been extreme. One day, as he was walking slowly along the street of the village in a manner customary to him, with his eyes bent on the ground, he was met by the Misses Biggar, the daughters of the parish pastor. He would have passed without noticing them, if one of the young ladies had not called him by name. She then rallied him on his inattention to the fair sex, in preferring to look towards the inanimate ground, instead of seizing the opportunity afforded him of indulging in the most invaluable privilege of man, that of beholding and conversing with the ladies. "Madam," said he, "it is a natural and right thing for man to contemplate the ground, from whence he was taken, and for woman to look upon and observe man, from whom she was taken." This was a conceit; but it was the conceit of "no vulgar boy."

There is a great fair at Kirkoswald in the beginning of August. During the week preceding this festival in the year 1778, Burns made overtures to his Maybole friend, Willie, for their getting up a dance, on the evening of the approaching day, in one of the public-houses of the village, and inviting their sweethearts to it. Willie knew little at that time of dances or sweethearts; but he liked Burns, and was no enemy to amusement. He therefore consented, and it was agreed that some other young men should be requested to join in the undertaking. The dance took place, as designed, the requisite music being supplied by a hired hand; and about a dozen couples partook of the fun. When it was proposed to part, the reckoning was called, and found to amount to eighteen shillings and fourpence. It was then discovered that almost every one present had looked to his neighbours for the means of settling this claim. Burns, the originator of the scheme, was in the poetical condition of not being master of a single penny. The rest were in the like condition, all except one, whose resources amounted to a groat, and Maybole Willie, who possessed about half-a-crown. The last individual, who alone boasted any worldly wisdom or experience, took it upon him to extricate the company from its difficulties. By virtue of a candid and sensible narration to the landlord, he induced that individual to take what they had, and give credit for the remainder. The payment of the debt is not the worst part of the story. Seeing no chance from begging or borrowing, Willie resolved to gain it, if possible, by merchandise. Observing that stationery articles for the school were procured at Kirkoswald with difficulty, he supplied himself with a stock from his father's warehouse at Maybole, and for some weeks sold pens and paper to his companions, with so much advantage, that, at length, he realised a sufficient amount of profit to liquidate the expense of the dance. Burns and he then went in triumph to the inn, and not only settled the claim to the last penny, but gave the kind-hearted host a bowl of thanks into the bargain. Willie, however, took care from that time forth to engage in no schemes for country dances without looking carefully to the probable state of the pockets of his fellow adventurers.

At his departure from Kirkoswald, Burns engaged his Maybole friend and some other lads to keep up a correspondence with him. His object in doing so, as we may gather from his own narrative, was to improve himself in composition. "I carried this whin so far," says he, "that, though I had not three farthings' worth of business in the world, yet almost every post brought me as many letters as if I had been a broad plodding son of day-book and ledger." To Willie in particular he wrote often, and in the most friendly and confidential terms. This correspondence continued till the period of the publication of the poems, when Burns wrote to request his friend's good offices in increasing his list of subscribers. The young man was then possessed of little influence; but what little he had, he exerted with all the zeal of friendship, and with considerable success. A parcel of copies was accordingly transmit-

ted in proper time to his care, and soon after the post came to Maybole to receive the money. His friend collected a few choice spirits to meet him at the King's Arms Inn, and they spent a happy night together. Burns was on this occasion particularly elated for Willie, in the midst of their conviviality, handed over to him above seven pounds, being the first considerable sum of money the poor bard had ever possessed. In the pride of his heart, next morning, he determined that he should not walk home, and accordingly he hired from his host a certain poor hack mare, well known along the whole road from Glasgow to Portpatrick—in all probability the first hired conveyance that Poet Burns had ever enjoyed, for even his subsequent journey to Edinburgh, auspicious as were the prospects under which it was undertaken, was performed on foot. Willie and a few other youths who had been in his company on the preceding night, walked out of town before him, for the purpose of taking leave at a particular spot; and before he came up, they had prepared a few mock-heroic verses in which to express their farewell. When Burns rode up, accordingly, they saluted him in this formal manner, a little to his surprise. He thanked them, and instantly added, "What need of all this fine parade of verse? It would have been quite enough if you had said—

Hero comes Burns,
On Rosinante;
She's deuced poor,
But he's deuced canty."

When these pleasantries had passed, the Maybole youths allowed their poetical friend to go on his way rejoicing.

Every sweet has its bitter. In the poems, Burns had changed the address of his excellent *Epistle to a Young Friend* from Willie, to whom it was sent when first written, to Mr Andrew Aiken, the son of his great patron Mr Robert Aiken, of Ayr. Willie received the slight, and the two Kirkoswald disputants were from this time friends no more.

THE PHILOSOPHY OF HORSEMANSHIP. ONE evening lately we derived considerable pleasure from a visit to Ducrow's exhibition of feats of horsemanship. Horses of a fine figure are always interesting creatures; but particularly so, when they display an almost human sagacity in their actions, and perform parts on the stage or in the ring as cleverly as many human beings. Ducrow's horses are among the most beautiful and tractable of their species, and one feels quite excited by seeing their ardent desire to merit the applause of the audience. It is not, however, altogether from sources such as these that our gratification is derived; there is another kind of pleasure in contemplating the beautiful examples which are presented of some of the most striking phenomena of physical science—examples which one cannot well see any where but in an arena of equestrians.

The reader who has never been a witness of scenes of this nature, will please to conceive the idea of a large house, fancifully decorated with gilding and painting, seated with benches rising above benches on nearly all sides, and in the centre, a wide open circular space, of some thirty or forty feet in diameter, nicely strewed with fresh saw-dust. This is the arena or ring. Shortly after the house is filled, and when every one is on the tiptoe of expectation, a door in the side of the arena is thrown open, and there is led in, one of the most lovely horses which eyes ever beheld. It is of a light creamy white colour, with flowing mane and tail, and a square flattish saddle of yellow leather strapped upon its back. We are sure the horse which is mentioned in the story of one of the Calendars, king's sons, in the Arabian Nights' Entertainments, was not a more fascinating creature. In comes, along with it, our old friend Mr Merryman, cracking his jokes on the fiddlers, as usual, and asking all sorts of laughable questions; also an equestrian in a light silk spangled dress, ready to show the audience some of his feats of horsemanship. Whisk! with a step and jump he is on the back of Pegasus, and off they set at a regular gallop round the circumference of the ring.

We now ask the permission of the spectator to philosophise a little. An eminent divine of last century wrote a poem, to show what valuable ideas might be made to pass through the mind, during the pleasing exercise of smoking tobacco. Following so good an example, we propose to show what instruction in science may be derived from witnessing a little good horsemanship, and having "all one's eyes about them." The lesson may do good.

The first thing which excites our particular notice, is the leaning inwards of the horse. Pegasus is going at a fine pace of seven or eight miles an hour, and he is leaning to a certain degree with his side towards the centre of the ring. Now, he has increased his speed. Mr Merryman has handed up a whip to the rider, who has just started to his feet on the saddle,

* See a small publication entitled, "The real Souter Johnny, a Poem, with Explanatory Notes." Maybole, M. Porteus. 1824.

* The anecdote, as well as that of the fishing excursion, is given here as reported in the brochure already quoted.

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1 has urged the animal to a rate of ten or twelve miles an hour. The quicker the speed, you may perceive, the greater is the degree of leaning inwards of the horse. The rider, also, is similarly affected. He, too, leans inwards as much as the animal on which he is standing. If you were to draw a straight line from the top of his head, it would go obliquely down to the outer feet of the horse, so much do both seem to present the same angle of inclination. Why is this leaning inwards? The immediate reason for this remarkable phenomenon is a natural or instinctive feeling of the horse and his rider. Both feel, that, if they did not lean inwards, they would be dashed over in an onward direction. In truth, they cannot help themselves from leaning. It would be out of their power to move rapidly round the ring in an upright posture. A consideration of the cause of this, leads us to a first principle in the laws of motion. The principle is—*that it was Sir Isaac Newton who discovered it—that every body must persevere in its state of uniform motion in a straight line, unless it be compelled to change that direction by some new force impressed upon it.* That is to say, if you once put a body in motion, it will go on moving for ever, in a straight line, never stopping, and never turning, until some different kind of force or an obstacle alter its tendency.

The only reason why we do not see this exemplified in ordinary moving bodies, is, that they are all turned aside and drawn to the earth by attraction. They are constantly impeded by a counteracting force. A similar principle exists in reference to the heavenly bodies. The planets, it is conceived, have been hurled into space from their common centre, the sun, and they would have proceeded onwards in a straight path forever, had they not been restrained by a counteracting attraction in the body of the sun; and by a fine balance of the two tendencies or forces—the onward tendency and the attractive tendency—the planets have been obliged to pursue lines of direction round and round the sun, and which will last as long as time endures. But what has all this to do with horsemanship? Here is the connection of the two things. The constant tendency to go straight onward, of any moving body, whether a planet or a trifling object, is only restrained, kept within bounds, by the counteracting force of attraction; it is by no means extinguished. Therefore, in going round in a circle, there is a perpetual tendency to fly off in a straight line; and the greater the velocity in going round, so just the more powerful is the tendency. This incessant desire in a circular moving body to fly off, is scientifically called *centrifugal*, that is, *centre-fleeing* force. We see it exemplified in thousand ways in the case of whirling bodies. In turning a circular grinding-stone rapidly with water in contact with it, we perceive a rim of water first rising on the stone, and next flying off; and the more rapidly we turn the stone, so does the water fly off with the greater force. The particles of water so projected always fly off in a straight line, which they preserve for an instant or two, till pulled to the earth by attraction, which causes them to fall in a bending direction. The earth is bulged out to a thickness of twenty-six miles greater at the equator than at the poles, merely in consequence of this disposition of the whirling matter to fly off, like the water from the grinding-stone. If the earth whirled much faster than it does, the sea would be thrown off, and the world would go to wreck. The reason for the horse leaning inwards is now pretty apparent. He feels an unconquerable tendency to fly off in a straight line, and this obliges him to lean inwards, to counteract such a dangerous impulse. He is only doing all he can to overcome his centrifugal force. A horse quickly turning a corner feels the same necessity for leaning inwards to save himself. What is most worthy of remark, in all these cases, is, that centrifugal force gets the better of attraction of gravitation to a certain extent. For instance, neither a man nor a horse can stand still, and at the same time lean over to an angle of say forty or fifty degrees, without falling on his side. The thing is impossible. If he attempt it, he will certainly fall, that is, be pulled to the ground by attraction of gravitation. But let centrifugal force be put into active operation, and see how opposite is the result. This new force overcomes attraction to a certain degree. The force impelling outwards balances the force impelling inwards, and betwixt the two the animal is kept suspended in the air. How beautiful an example of this is seen in the case of an accomplished skater on ice! You see him moving in all kinds of circular or curvilinear paths on the smooth surface of the frozen liquid. You see him leaning over, poised on the edge of a single skate, an edge as sharp as a knife, and describing with his person an angle of sixty degrees to the horizon, and yet he does not fall. Perhaps he does not know himself what it is that is supporting him. Moving gracefully and safely in the circular path which his changeful fancy directs, he constitutes, like the equestrian, a complete practical example of the operation of one of nature's great primary laws.

To return for an instant to Mr Merryman, who has been performing all sorts of antics in the arena: he is requested to hand up half a dozen light brass balls to the rider. With some oft-repeated joke, the balls are chucked by the clown to the gentleman on horseback, who forthwith commences throwing them one by one into the air, and catching and returning them when they descend. Here we have another practical exemplification of a law of motion. The spectator cannot help remarking, though he may have seen the trick

done fifty times before, that no matter how high or in what direction the rider throws the balls, they always return to his hand. Pegasus is still going at a speed of twelve miles an hour, and the balls are performing journeys up into the air and down again just as fast. Not one of them is falling behind the horse. They are busy going up, but they are also busy going forward. There they are all kept playing about the rider's person, as if they had a wish to keep him company. Now, stop. We wish to ask a question—not of any grown-up person certainly, but of any one of our young readers. *Tell us the reason why the balls do not fall behind the rider.* Youths who have been instructed in the elements of Natural Philosophy, will be able to answer this question without a moment's hesitation.

The reason why the balls do not fall behind, but keep up with the rider, is, that they participate in the motion which is common both to the horse and the rider. Whatever be the degree of velocity of a moving body, every object in connection with that body possesses the same degree of velocity. It participates in the motion, and has a tendency to proceed in the same direction, and at precisely the same rate of speed. On account of this participation of motion in all bodies moving in connected masses, it is observed that all objects whatever keep their proper places in or about the large moving bodies with which they are in contact, and hence no confusion takes place in the relative situation of objects on the earth by its motion. For example, when we leap from the ground, the earth does not slip away from below us; if we ascend in a straight line of direction, we fall down exactly upon the same spot whence we arose. When a man falls from the top of a mast of a moving vessel, he falls upon the deck upon a spot directly under the point whence he fell; the vessel does not leave him. When we are sitting in the cabin of a moving vessel, and let a small object drop from our hand to the floor, it falls on a point on the floor immediately below, the same as if it had been dropped in a house on solid ground; the floor does not leave it behind. When we are sitting in a rapidly moving coach, and, in a similar manner, let an object fall, it descends in the same manner to the bottom of the coach. The reason for these phenomena is that already mentioned—the small objects possess a motion derived from the larger; this common motion, or *mutual inertia*, as some authors call it, is retained by the small objects during their descent, so that, while descending, they are also going forward; in other words, they display a composition of motion—a horizontal motion and a descending perpendicular motion. Thus, when we see the equestrian jumping from the back of his horse, through a hoop which is held up before him, we think he must use great exertion to do so. No such thing. He does not jump forward at all; he only jumps upward, and the motion lodged in his person which he has received from the horse carries him through the hoop, so that he is certain to alight on the back of the horse, on the other side. This going forward of a moving body after it is disengaged from its source of motion, may be seen in the case of a ball dropped from the window of a moving coach. After being dropped, it continues to go forward, as if it were still in the coach, till it meets the ground, when it is stopped; thus, its *mutual inertia* is destroyed.

When a man, standing on the ground, shoots at a bird on the wing, he requires to follow its motion by keeping his gun moving when presented at it; but if he be standing on the deck of a ship sailing at the rate of ten miles an hour, and point his gun at a bird flying in the same direction and at the same velocity as the ship, then he is placed in the same condition as the bird; he does not require to move his gun, as if following the bird. In taking aim at a bird on the wing from the solid ground, it requires considerable skill to prevent the shot from proceeding to a point behind the bird, because the shot is entirely destitute of *mutual inertia* on being fired, unless it be previously put in motion. But a bullet on leaving a gun which is moving at the same rate as the bird, and in the same direction, keeps going on in the direction of the bird, because it retains the motion it had in common with the gun. The bullet in this case does not go in the direction of the gun, but obliquely, so as to keep up with the motion of the bird, so that the same effect is produced as if the shot had been fired from a fixed gun on land to a fixed point in the air in advance of the bird. Should the bullet be fired from a gun in a moving vessel, for instance a ship sailing westward to a fixed point on land, then a certain allowance must be made for the *mutual inertia* of the bullet; it must be fired a little eastward, and the *mutual inertia* will carry it westward to the object.

We now see the reason why the light brass balls thrown up by the equestrian, do not fall behind. They cannot. It is interesting also to see how they participate in the centrifugal force of the moving mass. The rider throws them slantingly inwards in the line of his own body and the body of the horse, and they always return slantingly to him, instead of falling to the ground. If we were to throw them any way but straight upwards, when we were at rest, they would inevitably descend to the earth.

There is another phenomenon worth noticing in horsemanship. Did any of our readers ever see a piece at Astley's, performed by Ducrow, called the Courier of St Petersburg? It is a sort of drama acted in the ring. A courier is supposed to be dispatched from St

Petersburg with a letter in his charge, which he is ordered to carry with the utmost diligence he can use. There is no speaking; but the dumb show, the letter to be carried, the courier and his horses, all tell the story of the piece. In order to travel with the utmost possible speed, the courier chooses to ride on six horses at once. This is of course nonsense; but the spectator is so occupied with the spectacle, that he does not stop to inquire why a man can ride quicker by going on six horses, than on one after another, stage by stage. Ducrow acts the courier, and he performs it marvellously well. You see the six horses set off at a gallop round the ring. Sometimes there are two abreast, sometimes three, and at other times the whole six. The thing you have to admire is the wonderful ease with which the actor steps from the back of one horse to another. He is not disturbed by the velocity of the animals. Sometimes he feigns to fall asleep lying across their backs. Awakening with a start, he is seemingly about to fall, and you wonder he is not dashed to the ground. But in all these performances he is quite at his ease, because he is in the same condition of motion as the horses. In stepping from one horse to another, he does not change his condition. If, however, he were to try to step from the back of one of the moving animals to a fixed object, he would assuredly receive a fall. The phenomenon of an absence of jarring in the changing of places of bodies possessing a motion in common, is thus exemplified in the most perfect manner imaginable. There are, indeed, no experiments illustrative of the principles which guide the motion of bodies, so well worth seeing and studying as those which may be witnessed in feats of horsemanship.

THE REPOSITORY,

A TALE.

"I CANNOT account for it, mother, but I feel so anxious, and so timid at the thought of going to the Repository—I fear the ladies, who manage the establishment, may not think these things worthy of a place in it," said Caroline Bradley, in a low voice, to her grief-worn widowed parent, as the latter sat holding on her knee and to her bosom a fair-headed boy, whose pale countenance and sunken eye testified that sickness and want had recently been exerting, but too strongly, their baneful influence upon his frame.

"And yet," continued Caroline, in a still more subdued tone, "poor Alice was always thought to draw and colour so well!" The mother sighed deeply—casting at the same time a mournfully expressive glance towards a corner of the meanly furnished apartment, where lay asleep, on a low curtainless bed, the fever-wasted form of her fair-haired and once blooming Alice—her beloved first-born. A tear dropped from the parent's eye. Caroline observed the look, and its results. "Oh, mother!" she exclaimed, "you do not think Alice—our own dear Alice—worse? She has slept soundly for these two or three hours, and we were told, you remember, that this would be a favourable sign; this is the first time she has slept so calmly and sweetly." Again the mother cast her eye on the form that reposed on the humble couch, and said with a sad expression, "I would not ceaselessly depress your hopes, my kind Caroline, and I do think that the violence of the fever is abated with Alice, as it has been for some days with this poor boy; but her father's death weighs sadly upon her, and there is another crushing load that lies upon her young affections;—have you not heard her murmur, in her broken dreams, the name of her betrothed, and speak to him as if she believed him to lie under the deep sea? Edward Omer's silence for year, or rather his deferred return, was pressing grievously, though secretly, upon your sister, before this illness, Caroline, and now it is hastening her—" Tears stop the mother's speech, and Caroline could not, and did not attempt to reply.

"But, Caroline, my dutiful, affectionate Caroline," continued Mrs Bradley, when she had regained her composure in some measure, "we must not cease to exert ourselves; for while there is life, there is hope. You have borne uncomplainingly, my child, the loss of fortune and of friends; you have been a ministering spirit by your father's deathbed, and have followed his remains to the grave; you have performed every household drudgery, and have endured, unrepiningly, the neglect and scorn of those around us; all this you have done, my good child, and you must still bear on for the sake of these helpless ones and me."

"Yes, dear mother," exclaimed Caroline, rising and throwing her arms around her parent's neck, "yes, I understand you—I will go at once to the Repository." "It is our last resource, Caroline, for our money is nearly exhausted. Go, my dearest girl. I do not blame you for being timid, and reluctant to make this first attempt to sell our little articles; I can fully enter into your feelings; but He who has armed you to undergo so much, will support you still." "No more, mother—it is enough," cried Caroline; and immediately she put on her bonnet, took up her little parcel, and left the humble abode which contained the wreck of her fallen family.

Caroline Bradley soon arrived at the Repository,

an establishment (it is scarcely necessary to tell our readers) where small ornamental articles of female workmanship were purchased and sold, and which was instituted and managed by a number of respectable ladies. Caroline tremblingly knocked at the door of this place, and, on its being opened, was ushered into a back apartment, where several females were waiting with the same object as herself. These individuals, however, unlike the new comer, were cheerful and happy, and, as they waited to be received in turns, engaged themselves in light-hearted conversation. Poor Caroline placed herself in a corner, and sat unheeded by any of her temporary companions, who, indeed, seemed to despise the unknown stranger, attired as she was in a sorely worn black cloak, and a large faded bonnet, which completely covered up her fine features. The object of their neglect—nay, we are sorry to say, of their sneers—heeded them not; her thoughts had wandered back to that poorly furnished home, where her beloved sister and brother languished in sickness and sorrow. The image of her mother rose up in Caroline's mind—of her mother kneeling and imploring a blessing upon her dear ones; and then Caroline thought of her father—she pictured him clothed in the garments of the blest, and filling a place in heaven as the guardian angel of his bereaved and sorrowing family. "Happy thought! he is now perhaps watching over us!" exclaimed she involuntarily, clasping her hands. The words were unconsciously uttered aloud. They were the first Caroline had uttered, and they produced a look of compassion from some, and a laugh from others.

One and another of the applicants had been called away in succession, and then came Caroline's turn. She rose on being summoned—her heart beat quicker, and her cheek grew paler; but she uttered a fervent internal petition, and her agitation and timidity passed away, though she could not divest herself of a sense of the momentous importance of the decision about to be pronounced. Several ladies were in waiting to receive the work. "And pray, young woman, what have you brought?" said an elegantly dressed female, in a cold haughty tone. "Some small ornaments, madam," was the reply. "Ornaments, indeed! Pray let me see them. Very well done—very tolerably done!" Another lady observed, that one of the baskets was very neatly finished, and other remarks were made upon the remainder of the articles. Caroline was full of hope, but, alas! the ladies were not speaking officially—they were only gratifying their curiosity. After a time, the one who had first spoken observed, "Really, young woman, it would have been much better had you employed yourself in making some useful articles of needle-work, such as children's caps, or any other thing of that kind. The Repository is so overstocked with ornamental articles, that we have resolved to take in no more of them at present. Therefore, I should advise you to return home and work for a week or two at common needle-work, and if it be well done, we may perhaps receive it."

Caroline was so struck with disappointment, that she felt herself unable to speak in reply to this chilling decision. A sickening feeling of despair crept over her as she silently folded up the articles, and prepared to leave the room. Just as she was doing so, however, the door opened, and two ladies entered. The ladies of the Repository rose to receive the entrants, who slightly acknowledged the courtesy offered to them. The elder of the two fixed a penetrating glance on the retiring Caroline, and asked her kindly if her articles had not met with a sale. "I have made a mistake, madam," was the reply, in tremulous accents, for the heart of the speaker was swelling in her breast; "I was not aware that ornaments were so little wanted here, for this is my first attempt." "Perhaps you will allow me to look at them," said the lady in a kind tone. Caroline immediately produced them, and the elder of the two ladies, after looking at them attentively, addressed the managers of the Repository. "I think, ladies, you must have bestowed only a cursory glance at the performances of this young person, otherwise you must have observed the beauty of these flowers on this basket, and the excellence both of the drawing and colouring of the whole. Look at this—would not one almost imagine that Nature herself had held the pencil here?"

Caroline's already softened heart was overpowered by these kind words. She burst into tears. "These flowers were painted by my sister," she sobbed; "alas, I fear—" "You fear what, love?" said the elder lady soothingly. "I fear, madam, that she will never draw or paint flowers again," returned Caroline. "Is she ill, my dear?" asked the lady. "She has been labouring under a low fever for months, and it was to enable us to purchase some comforts for her, that I came hither now," said Caroline. The lady instantly drew out her purse, and was about to place it hastily in the weeping girl's hands, but instinctive delicacy checked her, or perhaps something in Caroline's appearance—the gracefulness of form which the humble dress could not hide, the purity of her language and elegance of her manner—these circumstances, it may be, led the sympathising lady to restrain her first impulse, and give her charity a form less calculated to hurt the feelings of its object. She took up Caroline's little packet of ornamental articles, and exclaimed, "I will purchase these things from you—you shall not have come in vain for relief to your poor sister. Take this purse. Nay," observing Caroline to hesitate on account of the seeming value of its contents, "nay, if it be too

much, you shall make some more things for me—your sister, when she recovers, will do it." Caroline took the purse, and, seizing the generous giver's hand, pressed it to her lips, exclaiming, while her tears still fell fast, "Oh, madam! you do not know how much good you have done by this! Your bounty will save a family from starvation! You and yours will have our prayers for ever! And if my sister recovers, she will do—all that you wish." The poor girl could speak no more, but, again kissing her benefactor's hand, she turned to depart. She was stopped, however, for a moment by the lady, who made her promise to return again within a few days to the Repository. Caroline—though, to use the expressive language of Shakespeare, "her pride fell with her fortunes"—was gratefully sensible of the lady's delicacy in not inquiring into the abode of the family whom she had relieved, and promised at once to meet her generous friend at the same place in the course of the following week.

Leaving the Repository, and its managers, who, to do them justice, were somewhat moved by the scene which had taken place, Caroline took her way towards the mean dark alley where her abode was situated. She held, as she went, the purse firmly grasped in her hand, and for the first time in her life was covetously afraid of losing it. "It may save them," she murmured, as she pressed it to her bosom; "it may save them—it may be the means of restoring them to health, and then I will work for them—oh! how I will work for them! Though I cannot draw or paint so well as Alice, I can do plain work, and that at least will be taken at the Repository." The heart of Caroline lightened as she thus communed with herself on her way homeward. As she drew nigh to that home, she even checked herself for the cheerfulness of her feelings, as a mood of mind unsuited to the situation of those she loved. One thought, too, of her father, came across her memory, and subdued her buoyancy. But what was her surprise on reaching the door of her abode, to hear a merry laugh from her little brother, such as he used to vent in former days, but which had long been unheard from his lips! A manly, cheerful voice also sounded from the dwelling, the tones of which were at once familiar and strange to Caroline's ear. Amazed at what she heard, she opened the door, and a most unexpected scene met her eye. Her sister Alice was sitting, partly dressed, on her low couch, her pale countenance lighted up with a beaming smile, and her head supported on the bosom of a tall handsome youth, whose fine features exhibited a striking mixture of sorrow and delight as he hung over the wasted yet lovely being enfolded in his arms. The mother sat gazing fondly on this pair, with an expression of hope once more illuminating her aspect, and the little boy was delightedly playing with the sword of the stranger, who was dressed in a naval uniform.

All this Caroline saw at a glance, and she required no more but a glance to comprehend the cause. "Edward Omer!" she exclaimed, rushing joyfully to the side of her sister's bed. "Yes," said the young officer, as he imprinted a brother's kiss on Caroline's brow; "yes, Caroline, it is Edward Omer, returned to his Alice, to his darling Alice. Oh, that I should find her thus!" continued he, bending a look almost of agony on the thin pallid cheek that rested upon his breast, and pressing his lips to it again and again; "but she is still mine! she is still spared to me, and we shall be yet happy!" "Edward, Edward!" interposed the anxious mother, "this agitation is too much for the poor child." "No, mother," murmured the weak tones of Alice, "his words, his voice, his love, are life to me!"

Mrs Bradley, however, persuaded the lover to permit his betrothed—for such Alice had long been—to take to her pillow. Subsequently, seated by the side of his mistress, and with her hand locked in his, Edward Omer detailed to them his adventures, and the cause of his protracted absence. He had been seized with a fever, as the vessel to which he belonged was in the Eastern seas, and had been left on shore by his companions, as one past all hope. After his recovery, he had been long detained, contrary to his expectation, by being employed on a local mission connected with the affairs of the great Company of which he was a servant. He had written several times by the hands of private friends to Alice, but the altered situation of the Bradley family had prevented his letters from ever reaching their destination.

In their turn, Mrs Bradley and Caroline communicated to Edward the sad story of their reverses (which were the consequence of a law-suit), of Mr Bradley's death, and of the illness with which the family had been visited. Many, many were the praises which Edward bestowed on Caroline, as the details of her unwearied exertions and her affectionate watchings by the sick-beds of her father, her sister, and her brother, fell from the mother's lips. Caroline's kind heart was deeply gratified by his thanks. But she would give Alice her due, and, undeterred by any feeling of false pride, she told how her sister's beautiful work had attracted the notice of a generous lady, and the consequences that had ensued from it.

We have not now very much of this story to tell. Alice recovered rapidly from the effects of her fever, a result owing, partly, it may be supposed, to her removal to a better abode, and also to her lover's constant attendance on her during her convalescence. When that convalescence had ripened into confirmed health, Edward Omer and she were united. Long ere this time, however, a considerable change had

taken place in Caroline's position. At the time appointed, she had met the person who had been her benefactress on the former occasion at the Repository, and had explained the whole history of her family to that lady, as well as the happy prospects that had recently dawned on Alice. Afterwards, the kind old lady, who was the widow of an English peer, visited Mrs Bradley, and from what she heard from the fond mother, became more and more interested in Caroline, whom she found to be as highly accomplished as she was finely endowed in disposition. The consequence was, that the worthy lady exerted her influence among her friends, and speedily obtained so many pupils for Caroline, as gave her the prospect of maintaining her mother and brother in respectability and comfort.

This true history is ended. Caroline Bradley has now remained in the position we have described, for several years, and has not belied the expectations of the noble-hearted lady who placed her in it. Caroline's pupils, indeed, absolutely idolise her, and this, it is said, is the principal reason which has prevented her hitherto from listening to certain overtures on the part of Captain Omer's brother, a rising member of the mercantile world. The happiness of Alice with Captain Omer, will, however, it is thought, tempt Caroline some day soon to leave her beloved pupils to the care of some other guide and instructor. This supposition receives some countenance from the fact, that her brother, having shown a decided liking for the profession of a merchant, has recently been placed under the charge of the gentleman referred to.

BIOGRAPHIC SKETCHES.

SIR JOHN LESLIE.

JOHN LESLIE, Professor of Natural Philosophy in the University of Edinburgh, was born at the kirk-town of Largo, in the county of Fife, on the 16th of April 1766. He was of humble but respectable parentage; his father, Robert Leslie, being a joiner and cabinet-maker by profession, and a man much esteemed in his station. John, the youngest of several children, was sent, in early boyhood, to a school kept by an old woman in Largo, where he remained but a short time, and was afterwards placed under a Mr Thomson, at Lundin Mill. Here he acquired a knowledge of writing and arithmetic, and also, by the aid of his eldest brother, a little smattering of geometry. Lastly, he went to Leven school, and began to learn Latin; but his dislike to that language, and his inability from the weakness of his constitution to walk the necessary distance, induced his parents to withdraw him, after a trial of six weeks. This constituted the whole course of his regular studies, previous to his entering the College of St Andrews, at the age of thirteen.

Before that time, however, his strong propensity to mathematical and physical science had fully developed itself, and he had made such progress by private application, that he was found qualified, on examination at his entrance to the university, for the senior mathematical class, in which he got a prize at the close of the first session. The attention of the Earl of Kinnoul, chancellor of the university, was now strongly attracted towards young Leslie, whom he offered to maintain at college, provided his boy's father would permit him to be educated for the church. This proffer was at once embraced, and the student went on, gathering new academical honours year after year. He became accidentally acquainted, while at college, with Mr (afterwards Professor) Playfair, then minister of Liff, in Forfarshire, where Leslie visited him several times. Neither the clergyman nor his youthful friend then dreamt, it may be believed, of that lot which was to place both, in succession, in two of the most conspicuous chairs of the metropolitan college of their native land.

In 1784, after spending six sessions at St Andrews, Leslie removed to Edinburgh, whither he was accompanied by one destined to be his companion in after years in the honours of knighthood, namely, James Ivory. Though he enrolled himself at the Divinity Hall, Leslie devoted the greater share of his attention to the sciences, and particularly to chemistry, and the death of the Earl of Kinnoul left him in a measure at liberty to follow his inclination, and give up altogether his theological pursuits. Like most young students of limited means, he maintained himself at Edinburgh by private tuition, and in this capacity he became acquainted with Adam Smith, to whose nephew (afterwards Lord Reston) he gave private instructions. Of Adam Smith's condescending kindness, Leslie always spoke warmly and gratefully. It was near the close of his three years' attendance at Edinburgh, that our young philosopher made his first essay as an author, by writing a Mathematical Paper on the "Resolution of Indeterminate Problems," which was

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read to the Royal Society by Mr Playfair, and published in its *Transactions*. In 1788, Leslie was induced to visit the United States, as tutor to two young Virginians of the name of Randolph. After about a twelvemonth's stay, he returned to Scotland, and, being now anxious for some settled position in life, went in the following year (1790) to London, with the intention of delivering lectures there on natural philosophy. The prospect, however, not appearing so promising as he had anticipated, he gave up this idea, and began to write for periodical works. He also undertook to furnish notes for a new edition of the *Bible*, which an old St Andrews friend, Dr William Thomson, was then publishing in numbers. But in these occupations Leslie did not continue long; for, at the close of the same year in which he went to London, we find him in the situation of tutor to the younger Wedgwoods, the celebrated potters of Etruria, in Staffordshire. While residing with this family, so distinguished in a commercial, literary, and scientific point of view, Leslie prosecuted, at his leisure hours, a translation of Buffon's *Natural History of Birds*, which he had engaged to provide for a London publisher. This work, which issued from the press in 1793, laid the foundation of that pecuniary independence which he was fortunate enough early to attain. The preface to this version of Buffon (which was published anonymously) is full of vigour and enthusiasm, and sufficiently indicates its author to have been no common hack translator, of the kind too commonly set to such tasks by the booksellers.

Leslie left Etruria in 1792, and, in 1794, spent some months in Holland, after which he returned to his native Largo, and pursued his philosophical experiments for about two years in private. In the course of this time, he invented his Differential Thermometer, an instrument adapted to the admeasurement of the smallest variations of temperature, and which afterwards proved of the most splendid utility to himself, as it has also been to others, as a help to subtle experimental inquiry. In 1796, Leslie accepted an invitation from Mr Thomas Wedgwood to accompany him on a tour through Germany and Switzerland. Shortly after his return, he stood a candidate for an academical chair at St Andrews, and subsequently for one at Glasgow, but on both occasions without success. In 1799, he again indulged his fondness for foreign travel, by accompanying his friend Mr Robert Gordon through Norway and Sweden. These repeated tours abroad were, doubtless, of the highest consequence in maturing his powers and views, both as regarded science, and the social and political economy of man.

Though Leslie had already contributed many valuable papers to periodical works of a scientific nature, he can scarcely be said to have come fully into public notice until the commencement of the present century. In 1800, from his retreat at Largo, he sent to Nicholson's *Journal* two papers descriptive of "an Hygrometer and Photometer,"* and also two other papers, one on the "Absorbent Powers of the Earths," and the other on "Light and Heat." But the great monument of his inventive genius and scientific knowledge appeared in 1804. This was his work, entitled an "Experimental Inquiry into the Nature and Properties of Heat." This disquisition, bolder, and more original in its views, than any treatise on the subject since the days of Black, at once fixed its author's reputation, not only in Britain, but over the Continent. The Royal Society of London unanimously adjudged to him the Rumford Medals, appropriated as the reward for discoveries on Heat. In minor points, the essay was faulty, being written in a style of ill-sustained, and sometimes absolutely burlesque, magnificence. But its intrinsic merits shone vividly through all such lesser defects.

The most important incident of Leslie's life followed quickly upon the publication of his treatise on Heat. Early in the year 1805, his friend Professor Playfair was elevated, on the death of Dr John Robison, to the chair of Natural Philosophy in the Edinburgh University, thus leaving the Mathematical chair vacant. For this, Leslie became a candidate, and was elected in opposition to one of the clergymen of the city, a respectable and amiable person, but altogether unknown in the scientific world. On the occasion of this contest, the city clergy endeavoured to gain a triumph for their reverend brother, by casting on his antagonist the imputation of infidelity. They referred in support of this charge to a passage in his *Essay on Heat*, where he praises David Hume's views of Causa-

tion, or the Necessary Connection of Cause and Effect. The passage in the *Essay* thus ends:—"The unsophisticated sentiments of mankind are in perfect union with the deductions of logic, and imply at bottom nothing more in the relation of cause and effect than a constant invariable sequence." These words showed, in the opinion of his clerical opponents, "that Mr Leslie, having with Mr Hume denied all such necessary connection between cause and effect, as implies an operating principle in the cause, has of course laid a foundation for rejecting all argument that is derived from the works of God to prove either his being or his attributes." To this charge Mr Leslie promptly replied, that, as he was then treating only of physical science, "his observations referred entirely to the relation between cause and effect, considered as an object of physical examination," and that it clearly lay altogether out of his way to advert, either by way of countenance or denial, to Hume's ultimate application of his own doctrines. The city clergy, however, persisted in their charge, and the case ultimately came before the General Assembly. The Rev. Sir Henry Moncrieff, one of the ablest speakers on Mr Leslie's side, may be said to have put an end to the matter, after a two days' debate, by showing that the accusers, in using in their charge the phrase "such a necessary connection between cause and effect as implies an operating principle in the cause," had enunciated a dogma not less pernicious than Hume's. "If the necessity here (said Sir Henry) is applied to the first cause, it is little less than blasphemy. If it is restricted to the second cause, it is substantially the doctrine of materialism, and leads directly to atheism." The accusers were now glad to petition for that permission to explain, which they would not accord to the accused; and at midnight, on the second day, a majority of the Assembly agreed to dismiss this vexatious case without further notice. The shout which followed, from the spectators in the galleries, showed the strong feeling of the public in Leslie's favour.

Leslie now entered, without opposition, upon the duties of his office, a fit successor of the Gregories, and Maclaurin, and a worthy colleague of Playfair and Stewart. Strong as his bent was towards experimental philosophy, the new professor showed, by his writings of the next few years, how zealously he had turned his mind to the studies with which he was more immediately connected for the time. In 1809, he published his "Elements of Geometry," a work which immediately became a standard class-book, and one section of which, in particular—on "Geometrical Analysis"—bore strong tokens of his acute original genius, and was translated into various continental languages. In 1810, Professor Leslie arrived at the discovery of that beautiful process of artificial congeation, effected by placing a powerful absorbent of heat under the receiver of an air-pump, and by which he could freeze water and even mercury at pleasure. He performed this experiment in the following year before the Royal Society of London, and, in 1813, he described his discovery in a small volume entitled "A short account of Experiments and Instruments depending on the Relations of Air to Heat and Moisture." In the vacation of 1814, Leslie made a short tour in France, and received an agreeable reward of his labours, in the distinction with which he was treated by Humboldt, Laplace, Berthollet, and other distinguished continental philosophers. He had the satisfaction of finding his discoveries better known in France than in England.

From the year 1809 downwards, Professor Leslie had occasionally contributed various able articles to the Edinburgh Review, and in 1815, when the Supplement to the *Encyclopaedia Britannica* was set on foot, he became, and continued throughout, one of its principal supporters. "His contributions (says the editor of that work), surprisingly numerous when his other avocations are considered, display all the powers and attainments for which he was remarkable;" and besides, "his advice, his invaluable information—amazing alike for its minuteness and extent—were always at the service of the editor." The variety of his avocations was shown by his publication of the "Philosophy of Arithmetic," in 1817. Two years afterwards, the death of Playfair called Leslie to the chair of Natural Philosophy, for which his attainments so eminently fitted him. His writings, subsequently to this period, consisted more of practical class-works, than of new disquisitions on science. He published in 1821, his "Geometrical Analysis, and Geometry of Curve Lines," and within the succeeding year, he issued the first volume of "Elements of Natural Philosophy." With the exception of a small octavo, entitled "Rudiments of Geometry," no other lengthened treatise came after this period, unless we regard in this light the "Discourse on the History of Mathematical and Physical Science, during the eighteenth century," prefixed by him to the seventh edition of the *Encyclopaedia Britannica*, and which is certainly one of the most masterly of all his compositions.

In 1832, Professor Leslie was invested with the honour of knighthood, at the same time with Herschel, Ivory, C. Bell, Brewster, and others of the most distinguished philosophers of the land. Leslie had long been in easy circumstances, and indeed had accumulated a considerable fortune, part of which he had latterly devoted to the purchase and decoration of the mansion of Coates, near his native village, where he spent all his leisure intervals. The honour of knighthood was not long borne by the subject of our memoir,

In October 1832, he was seized with erysipelas in one of his legs, and having neglected this, from his foible of despising medicine, he was cut off on the third of November following. His death occurred at his seat of Coates.

In person, Sir John Leslie, throughout his advanced period of life, was corpulent, but extremely active, and fond of exercise. With the following eloquent remarks of Professor Napier on the peculiar genius of his distinguished friend, this sketch may be aptly concluded:—"It would be impossible, we think, for any intelligent and well-constituted mind, thoroughly acquainted with the powers and attainments of Sir John Leslie, not to entertain a strong feeling of admiration for his vigorous and inventive genius, and of respect for that extensive and varied knowledge, which his active curiosity, his excursive reading, and his happy memory, had enabled him to amass and digest. Some few of his contemporaries in the same walks of science may have excelled him in profundity of understanding, in philosophical caution, and in logical accuracy; but we doubt if any surpassed him, whilst he must be allowed to have surpassed most, in that creative faculty—one of the highest and rarest of nature's gifts—which leads to, and is necessary for, discovery, though not all-sufficient of itself for the formation of safe conclusions—or in that subtlety and reach of discernment which seize the finest and least obvious qualities and relations of things—which elicits the hidden secrets of nature, and ministers to new and unexpected combinations of her powers. Viewing his mind with reference to its moral attributes and habitudes, we must allow that it was not free from imperfections. He had prejudices, of which it would have been better to be rid; but his infirmities were far more than compensated by his many good qualities—by his equanimity, his cheerfulness, his simplicity of character, his straightforwardness, his perfect freedom from affection, and his unconquerable good nature. He was, indeed, one of the most placable of human beings; and, notwithstanding his attention to his own interest, it is yet undeniable, that he was a warm and good friend, and a relation on whose affectionate assistance a firm reliance ever could be placed."

A SKETCH OF GERMAN MANNERS.

THE greatest difference between Britain and Germany is, that in the latter there is scarcely any middle class except in the large towns, and very few resident gentry in the country. There are scarcely any single farm-houses; the land is cultivated by peasants who live in villages. They appear to me to hold about the same rank as a tenant of fifty acres in Lancashire. They employ servants who are scarcely of a different grade from themselves. They seem to have little capital, and their methods of cultivation are rude enough. A pair of bullocks, or sometimes a pair of milk-cows, in richer districts a horse and a bullock, or a pair of horses, draw a clumsy primitive plough, mounted on two wheels. The ridges are shallow, and so zig-zag, that an East-Lothian ploughman would bet that they had been drawn by blindfolded men, and stone blind cattle. There is no draining that I have seen; and nothing that can compare to the skilful efforts exhibited in Scotland to overcome the defects of the soil and climate. But Germany is widely different from Britain. The level ground (and a very large proportion of it is level) is porous sand or fine gravel, which has a productive surface varying from four to eight or ten inches in thickness, produced probably by the decay of vegetable matter and long cultivation. Manure and ploughing are almost all that such land requires. Drains are superfluous, and art can do little to add to the stamina of so thin a soil. The population, in a great part of the country, appears to the eye of the traveller to be very thin; and as all the ground capable of carrying grain is sown, a relative abundance is produced from sheer extent of surface. Of course there are alluvial districts which are much richer; but the broad expanse of the country gives one very strongly the impression that it had long formed the bottom of a sea or vast lake, and been raised up *en masse*, and left in that condition. Limestone mountains and limestone rocks abound to so great an extent, that in travelling from Berlin to Vienna, and from Vienna to Munich, and Munich to Frankfort, by Ratisbon, I scarcely saw a drop of soft water.

In the small towns, the classes of servants, artisans, master-artisans, shopkeepers, doctors, clergy, and lawyers, are found much the same as in Britain, and there greater mental activity reigns. The workmen must travel for two years after their apprenticeship is expired, and this increases their intelligence, and serves to break down their prejudices. Every where we see these men marching in pairs, with knapsacks on their backs and a pair of boots on the top of them. They beg from travellers in carriages, and generally receive some little gratuity. The spirit of aristocracy is as strong among the tradesmen in the towns, as it was in Scotland in the olden times. Each signboard announces that its owner is "a master tailor, master smith, or master turner," and many add "burgess" to their titles. They are "master burgess shoemakers," &c. * In the large towns, all the grades of people found

* To obviate the necessity of repeated explanations, Leslie's "beautiful family of philosophical instruments" (as they are well called by Professor Macvey Napier) may be enumerated here. To him physical science owes the Differential Thermometer, the Hygrometer, the Hygroscope, the Photometer, the Pyrometer, the Ethrioscope, and the Atmometer; instruments adapted for the nice admeasurement of heat, light, moisture, &c. and of great utility to those engaged in the pursuit of experimental philosophy.

in our own country are presented in Germany, and with far slighter shades of difference in manners and dress than one would have anticipated. We are all one great family; and with the exception of the peasants, who generally wear a costume, the inhabitants of London, Edinburgh, Berlin, Vienna, Dresden, and Munich, male and female, are more alike in their dresses than could be conceived. On looking more narrowly into their social state and habits, however, greater differences are observable. There is far less wealth in Germany in the corresponding classes. A German house of any rank will be furnished for one-half of the money which it would cost to furnish an English one of the same grade. There are no carpets and no grates; the beds are small, calculated for one person only, and have no curtains. Their rooms are not loaded with rich furniture as ours are; but a table, a few chairs, and a sofa, constitute the effects in a sitting-room; and the same articles, with shelves and books, complete the array of a library. They have tasteful hangings at their windows, remarkable for elegance and grace, but not expensive. Their tables, chairs, and beds, are beautiful of their kinds, made of dark nut-wood highly polished, and their floors are either made of fine inlaid timber in beautiful patterns, or of simple fir deal, kept as clean as hands and brushes can make them.

All over Germany, the day begins very early. After four o'clock in midsummer, Berlin, Dresden, Prague, and Vienna, are in full activity. Carts, carriages, and wagons, thunder along, and it is impossible to sleep in a room fronting a busy street after that hour. The King of Prussia gives audiences at half-past five in the morning, and the banks and shops are open at six or seven. A light breakfast of coffee and bread, or, in the lower ranks, of beer or fruit and bread, is taken early; and at twelve, one, or two o'clock, in different places, business is universally suspended, and two hours are devoted to a multifarious and substantial dinner. The King of Prussia gives state dinners at two o'clock. The English ambassador gives dinners at four, to suit himself a little to the habits of his countrymen, who are his frequent guests. Dinner lasts generally two hours. Then the company rise and retire to the drawing-room, where coffee is immediately served, and in twenty minutes the guests disperse. The theatre, which commences at six, is the great place of resort in the evening. Operas are given alternately with plays in the chief theatre. There are also every where public gardens, in which coffee, ice, and confectionaries, are furnished, and a band of music plays the whole evening. The theatre closes about nine o'clock, and by ten the great majority of the people are in bed. These hours and habits, with slight modifications, pervade the whole of Germany which we have seen. In Vienna, business begins a little later in the morning, and the common dinner hour is two o'clock. The emperor dines at three, and the King of Bavaria at half-past three. The evening is every where devoted to amusement, which is provided at a cheap rate, and innocuous in its character. I have not seen three individuals drunk in Germany in three months. In Bavaria and the north, the common people drink a good deal of beer, but it is similar to the fine Edinburgh table-beer in strength and appearance. It is weak, highly fermented, and strongly hopped, and an ocean may be drunk without producing intoxication. The Catholic churches in both the towns and villages are crowded by worshippers by five o'clock in the morning, not only on Sundays, but on week-days; and the priests are in attendance to perform their duties at that hour.

In the large towns the middle classes, and in the smaller capitals, even the higher nobles, live in flats. In Dresden the Minister of War lives in a flat (the first floor), and in Munich, Prince Löwenstein, a name revered in Germany, also occupies a first floor. But these floors are often of enormous size, and contain very spacious and elegant rooms. The professors and the physicians, even of the first rank, are found in the first, second, and third floors of a large mansion. There are no sunken stories in Germany, and the houses have generally a large arch, into which coaches drive; so that the inhabitants of these floors are able to be taken up and set down from vehicles of all descriptions, without exposure to the open air, as in our country. The breakfast hour, as I have already mentioned, is six or seven o'clock, and the dinner hour twelve, one, or two. The prices of provisions are very low; and altogether, from the absence of expensive habits, an English income goes a great way in Germany; and in the towns, intelligent and agreeable society is every where to be met with. The Germans are a nation of musicians, and to an amateur of this refined pleasure Germany is a paradise.

The women of the middle ranks in Germany are amiable, and almost all musicians, but they are much less of fine ladies than in Britain. The wives and daughters of professors, physicians, bankers, and rich merchants, knit and sew, and attend to domestic affairs, very much as the ladies of Scotland used to do in the days of Waverley. They are refined and lady-like in their manners; simple, easy, and extremely neat. They are said not to be extensively learned, as the men are averse to their being taught any knowledge that might carry their thoughts beyond their domestic duties. They forget that they are the mothers, and the earliest and most efficient instructors of their children, and that knowledge and usefulness are not inconsistent, but perfectly compatible qualities. The general character of the Germans is honest and benevolent. Very rarely indeed have I seen an inferior animal, a child, or an idiot, maltreated in any form, or in any degree; and with the exception of the men who let out carriages to hire, I have not been cheated above six times in the

course of a tour embracing more than a thousand miles, and the sum total of my wrongs in these instances would not exceed twenty shillings. The men who hire their carriages to take travellers one or more days' journey, almost uniformly ask thirty or forty per cent. above what they will take, and we suffered from this at the outset of our travels; but whenever I knew the rates, I had no trouble even with them. With one single exception, they all honestly fulfilled their bargains; and that exception was a trifle—carrying luggage for hire for other passengers, when we had hired the whole carriage for ourselves.

One striking difference between Britain and Germany is that in the latter it is considered part of the object of existence to enjoy life. There is not that heavy pressure of exertion, of care, anxiety, and uncertainty, which afflicts the middle classes in our own country. The German has time to eat his dinner and his supper, to smoke his pipe, to hear music, to go to the play, to meet his friends; and short, while he journeys through this life, he lives by the way. The tone of good nature and of enjoyment which pervades the mass of the middle class, is exceedingly agreeable to strangers who visit them. Of course they have their errors, faults, afflictions, and misfortunes, as well as we; but these are not created to so great an extent as with us, by insatiable ambition, a never-ceasing pursuit of wealth, and a load of affairs beyond the mental strength of the individual; and they therefore positively enjoy more with less riches than we do. The great faults of the men are smoking, spitting, and rather slovenly domestic habits.

Every one has heard of the Prussian system of education. It owed its origin to the oppressions of the French. The battle of Jena revealed to the king that his people wanted national spirit, that his government was destitute of energy, and his finances nothing, and he resolved to remove these great defects. Aided by ministers of great energy and comprehensive judgment, he emancipated the peasants, gave constitutions to the towns, and instituted the system of universal education which you have so often commended. The French, by continuing their oppressions and insults during a period of seven years, rendered these measures effectual. They roused thoroughly the national spirit, the people appreciated the gifts of the king, and finally expelled their oppressors with resistless bravery. The pressure of the times called for energy and talent; and as these were rewarded, they were speedily forthcoming. An extraordinary life and vigour were infused into every department of the public service, and Prussia became instinct with activity from the king to the peasant. A great deal of this spirit continues. In Prussia every thing is regulated, and in general regulated well. You cannot obtain a seat in a Prussian stage-coach till you present your passport; but when you have overcome this difficulty, you find it the handsomest, the most convenient, and the best appointed in Germany. The roads are admirably kept, but the spirit of regulation is sometimes ludicrously displayed in them. Tickets forbidding the breaking the parapets of bridges, breaking down fences, &c., are every where erected; and they always specify the penalty. I read one which prohibited injuring a fence under penalty of sixpence sterling! In the window of one of the toll-houses a few miles from Berlin, I saw a barometer and a thermometer, and a tablet indicating the day of the month, all placed to be seen by the public. All along the highways are circular recesses every two miles or less, with green turf banks, for foot travellers to rest on, under the shade of trees, and amidst the fragrance of flowering shrubs planted around them.

Professors and teachers are appointed only after the most vigorous competition; and in every Prussian university, as many private teachers as choose, may obtain the privilege of lecturing within the college on any science taught by the regular professors, provided such teachers submit to an examination, and prove their qualifications by their answers. These examinations are extremely severe, and only men of great talents and attainments can succeed in gaining the privilege of private teaching; but when once obtained, their lectures qualify students for degrees the same as those of the professors, and hence the latter can never with impunity fall asleep, as they sometimes do in other universities. In Prussia, talent is sought after by the government, and employed; and there is more freedom of the press in books than is generally believed in England. The government is extremely desirous to obtain information of every addition to human knowledge, and is not alarmed at having its subjects informed concerning the advances in the arts, sciences, and in social life, which are made in other countries.

One of the best informed men in Berlin in regard to education, said, that the instruction provided for females in the Prussian system had been found very defective, and that proposals had been made to improve it, but had met with great resistance. I communicated to one of the councillors who form the Privy Council of the Minister of Public Instruction, the subjects taught to the young ladies of Edinburgh in the Great Stuart Street Institution, and he expressed great interest in the plan. He said that some of his fellow councillors and himself desired a similar improvement in Prussia; but he feared that they had many obstacles to surmount before they should succeed.

In Austria the spirit of the system is in many respects diametrically opposite to that of Prussia in regard to improvement. The Emperor Ferdinand is forty-four years of age, is plain and simple in his habits, very amiable, but borders closely on imbecility. I saw him closely, and observed that his head has been enormously distended by disease; the back, lateral, and upper regions, resemble those of a person suffering under an advanced hydrocephalus. He is so timid that he cannot speak to a lady, or any stranger, and is admitted on all hands to be incapable of comprehending state affairs. This is a misfortune to be commiserated, and not a fault to be condemned. But the government is in the hands of Prince Metternich and Counts Kollarath and Klamm, and they maintain in full vigour the principles adopted by the late Emperor Francis, who was an amiable bigot. In Austria, improvement is resisted. Instead of the keen intelligence

and active vigour of the Prussian professors, one sees in Vienna a state of drowsy lethargy, which constitutes the paradise of mediocrity, but is bitterness to talent. The schools are also rendered systematically inefficient, and knowledge in Austria is every where proscribed.—*Abridged from two letters in the Scotsman newspaper.*

IN SEARCH OF A SITUATION.

[The following sketch, which contains both character and feeling, first appeared in the Kaleidoscope, a literary periodical work of much merit, published for many years at Liverpool.]

THE long-wished-for day at length arrived that was to release me from a bondage, by indenture, of seven years' laborious servitude; and surely I can never forget the enthusiastic manner in which I exclaimed "I am free," on that eventful day.

With an elated heart I set out for Liverpool, where I felt convinced my mercantile knowledge would soon be appreciated, and an excellent situation immediately obtained. I provided, or rather my discreet sister provided, several introductory letters to merchants resident there; and an abrupt departure saw me on the coach for that commercial town. On my arrival I procured genteel lodgings, and next morning I set off in search of a situation; but the hum and bustle of commerce drew me from my aim, and three days elapsed in admiring and wondering at the extent of the docks, the magnificence of the public buildings, &c., when I awoke from my inertness with—"This won't do; it really won't; I must commence in earnest tomorrow morning;" and I accordingly visited the advertising offices, and perused the *wanted* columns of the day's paper, and was fortunate enough to find a vacancy advertised in the Mercury:—"Wanted, a young man who has a thorough knowledge of book-keeping and accounts; a reference as to character and ability will be required. Address, — Box —, Post-office." I immediately wrote in my best hand an application, saying as much as I could as to ability, &c., and consigned it, with a prayer for success, to the post-office; but a few days convinced me I was not the chosen one, as I never heard any thing more concerning it. It was not long ere I applied again for a situation as a traveller, advertised in another paper, but without success. Another day, another vacancy, and another application, and all in vain. However, patience and perseverance were my watchwords.

I now began to perceive I was an unwelcome daily visitor at the office of a gentleman who had consented to allow my letters to be directed there—in fact, I thought I appeared unwelcome to the town; and tired with my own fruitless exertions, I determined to use my introductory letters, and selected one to Mr B., merchant, for the experiment. I obtained an audience in his private office; but he eyed me, on my entrance, as if he anticipated my errand; for there is something about a man out of a situation by which he is easily distinguished. "Who is this letter from?" he coldly inquired; and on being informed, "Oh! out of a situation. How is Mr B.? When did you see him last?" But before I could answer his inquiries, he resumed, "I have no vacancy myself; but if I should hear of any thing, I'll let you know." I thanked him, and begged permission to call again in a few days: but he told me I need not give myself the trouble, as he would let me know if he should hear of any thing. I forgot to leave my address, and therefore never heard from him. I then tried my fortune with another, addressed to Mr L. He could not be seen, I was informed by the clerk. Was it any thing he could deliver? he inquired. I put the letter in his hands, and he forwarded it to Mr L. in a private office. A few minutes elapsed, and the clerk was called in; I could distinctly hear what passed between them. "Ask the young man—I suppose he is waiting—ask him how Mr R. is, and tell him I am not in the way of hearing of vacancies;" but the clerk, feeling for my distress, told me, in language which his master had neither the politeness nor humanity to use, that Mr L. was sorry, &c., and should feel happy to render me any assistance, but could do nothing in the mean time. I left the office, the indignant blood boiling within me, and wishing any thing but benedictions on his head.

I now took from the remaining four letters, one which happened to be for Mr M., in the immediate neighbourhood, resolving, whether fortunate or otherwise, to consign the others to the flames. I was fortunate enough to find him disengaged, and had a private interview. He was a man whose penetrating eye seemed to read my wants; a man of peculiar behaviour and thinking, and I leave the reader to judge of his speech, which I give verbatim, as far as my memory serves. On my putting the letter into his hand, he remarked, "Well, young man, I perceive this is from my friend Mr C., at least it's like his handwriting," forcing a kind of laugh at the circumstance of recognition; "how was he and the family when you left?" I answered him whilst he was perusing the letter. "In search of a situation, I find; well, don't let me discourage you," said he: "but it really is a piece of indiscretion to leave a place where you are well known, to come to another, a complete stranger; besides, only consider, suppose a vacancy should occur, the preference would certainly be given to one who is acquainted with the localities of the town, trade, &c., and therefore I see but little chance of your succeed-

ing. But don't let me discourage you; all I have got to say is, a young man should always remain in the town where he is known, so long as he can keep his character; and he will find great difficulty in succeeding any where after that is gone. For my own part, I have no opening in my establishment at present; indeed, if I had, I could not, for the first three months, allow any thing in the shape of a stipend. As I said before, I have got my complement in the office. However, as you are so well recommended by Mr C., I will allow you to come here until you meet with a situation, which will be much better than lounging or rambling about the town." A pretty compliment to one who had served seven years in the same department of commerce, and that with a most extensive house; but, because not acquainted with the localities of the town and trade, I must be estimated at the low grade of a country lad! After a few commonplace expressions on both sides, I bade the great man good morning, and so we parted.

Thus ended another week, with no better prospects than before; my finances becoming low, I changed my lodgings, and farmed the remainder of my money to the best advantage. Time kept stealing on; every day applying, every day disappointed: 'tis true I had a note to attend an office where I had been making application, but it would not answer even my purpose. A salary of twenty pounds per annum for twelve hours' work per day, I thought worse than starving, and therefore refused it; for, like the Vicar of Wakefield, I had a "knack of hoping" for brighter, balmier days. At another time I ventured to undertake the engrossing of a deed (I had studied ornamental writing) for an attorney, which occupied me two days and a night, and for which I received—nothing. The fellow pleaded his own case most fluently, telling me that the work was not *professionally* done, and therefore he must first consider what I deserved, ere he could pay me any thing; but the number of "call agains" disgusted me, and I never received a shilling for it. What sorry luck for eleven weeks' probation! and yet, even this little success induced me to think that the eye of the public was upon me, and I was ever busying about; and if I chanced to look in a shop-window, it was always done in a run-away posture; every artifice I could devise was used, but all proved abortive. Few, indeed, can rightly estimate the painful intensity of such an existence, spent thus by one who had been for seven years trained to think of nothing but business, and yet to be, in the midst of it, doing nothing. All the world seemed happy and busy but myself.

I frequently met with a young man pursuing the same inquiry at the different offices, who, after he had got settled himself, introduced me to a concern, the owner of which immediately professed a friendly feeling towards me, and raised my expectations high with one of his hair-brained schemes, which, when tried, proved a complete failure, and I was abruptly told in a few weeks my services were no longer wanted. I found afterwards that he had served several in the same way, and had more than once lured young men from their situations by splendid professions and promises, only to be entrapped; and away they were sent to sink or swim in the ocean of life. It does not require much foresight to anticipate the result of such new-fangled actions—he was made to drink deep of the cup he had so frequently handed others.

Distress now stared me in the face, and, reduced to the last shilling, I knew not how to act; a stubborn pride, which not even misery could subdue, prevented me from applying to my relations for pecuniary assistance; indeed, the same feeling would not allow me to write to them at all, to their great discomfiture and frequent solicitations. My landlady was prompt in her demands for her weekly rental; but having my luggage in her possession, she did not trouble me so much as I anticipated. I now began to fear that all my little chattels would soon be reduced to the portable compass of a pawn-ticket, but, by entreaty, they were saved that honour. My clothes, of which I had but a slender stock, grew gradually more and more shabby, but I still tried to keep up an appearance of gentility. Often has a clean shirt-collar don the office of a shirt; indeed, every thing, more or less, partook of a struggle with poverty. Hunger and I were good friends. Often have I returned in an evening, after a day spent in tedious search, and gone to bed without breaking my fast. Who can picture my aching heart?

The strange remarks of Mr M. frequently occurred to my mind, and seemed to be an augury of my fate. I wished I had stopped in the "town where I was known," or even accepted the £20 salary per year offered me.

How readily we wish time spent revolved,
That we might try the ground again, where once
(Through inexperience as we now perceive)
We miss'd the happiness we might have found.

One circumstance I should not forget. Passing along Paradise-street, one evening, I met an old school-fellow, along with two smart young gentlemen. I plainly perceived he recognised me, though he passed without moving or speaking. They turned the corner of Richmond-street, and I moved on; but to my surprise he left his companions and came to me. I related my sad tale to him, as briefly as possible, for I could perceive he was impatient of delay. He pulled out a handful of silver, and selected two half-crowns, which he gave to me, remarking he would have given me more, but was going to see Liston perform at the

theatre, and would want all the money he had with him. Had I been possessed of five shillings, I would have spurned the gift; but poverty and distress are poor aids for the independent mind.

Compelled by poverty, I now determined to accept any situation that came in my way, and no longer considered myself *too good* for this or that; and I soon found an opportunity of trying my resolution. "An errand boy wanted," was wafered on a bookseller's shop window. I applied; he seemed surprised at the application, and kindly inquired into my circumstances. He relieved me, and in three days—wonderful to tell—procured me a situation of £100 per year, which soon enabled me to defray all my debts, and assume a respectable appearance. Three years afterwards I was taken into partnership, in an opulent firm, and became rich, and willing to relieve the destitute whenever I could find them.

If men in office and power would only consider what benefactions they could confer by a single effort of their own; how they could lighten and alleviate the sufferings of virtue, bowed down by misfortune; and what prayers would ascend to the Almighty for their preservation, offered up from hearts grateful for benefits received, they would find in it its own rich reward.

DESTRUCTIVE FALL OF A SWISS MOUNTAIN.

THE valley of Lowertz, situated in the canton of Schweitz in Switzerland, and bounded on two sides by the lakes of Zug and Lowertz, and the mountains of Rosenberg and Rosi on the others, was the scene of a dreadful catastrophe, in the month of September 1806. An account of the event to which reference is made, was given by an American clergyman, who passed over the spot shortly after the occurrence took place:—

"About five o'clock in the evening of the third of September, a large projection of the mountain of Rosenberg on the north-east gave way, and precipitated itself into this valley; in less than four minutes it completely overwhelmed the three villages of Goldau, Busingen, and Rathen, with a part of Lowertz and Oberart. The torrent of earth and stones was far more rapid than that of lava, and its effects as irresistible and as terrible. The mountain in its descent carried trees, rocks, houses, every thing before it. The mass spread in every direction, so as to bury completely a space of charming country more than three miles square! The force of the earth must have been prodigious, since it not only spread over the hollow of the valley, but even ascended far up the opposite side of the Rigi. The quantity of earth is enormous, since it has left a considerable hill in what was before the centre of the vale. A portion of the falling mass rolled into the lake of Lowertz, and it is calculated that a fifth part is filled up. On a minute map you will see two little islands marked in this lake, which have been admired for their picturesqueness. One of them is famous for the residence of two hermits, and the other for the remains of an ancient chateau once belonging to the house of Habsberg. So large a body of water was raised and pushed forward by the falling of such a mass into the lake, that the two islands, and whole village of Seven, at the northern extremity, were for a time completely submerged by the passing of the swell. A large house in this village was lifted off its foundations, and carried half a mile beyond its place.

The disastrous consequences of this event extend further than the loss of such a number of inhabitants in a canton of little population: a fertile plain is at once converted into a barren tract of rocks and calcareous earth, and the former marks and boundaries of property are obliterated. The main road from Art to Schweitz is completely filled up, so that another must be opened with great labour over the Rigi. The former channel of a large stream is choked up, and its course altered; and as the outlets and passage of large bodies of water must be affected by the filling up of such a portion of the lake, the neighbouring villages are still trembling with apprehension of some remote consequences, against which they know not how to provide. Several hundreds of men have been employed in opening passages for the stagnant waters, in forming a new road for foot passengers along the Rigi, and in exploring the ruins.

The number of inhabitants buried alive under the ruin of this mountain is scarcely less than fifteen hundred. Some even estimate it as high as two thousand. Of these, a woman and two children have been found alive, after having been several days under ground. They affirm, that while they were thus entombed, they heard the cries of poor creatures who were perishing around them for want of that succour which they were so fortunate as to receive. Indeed, it is the opinion of many well-informed people, that a large number might still be recovered; and a writer in the *Publiciste de Paris* goes so far as to blame the inactivity of the neighbouring inhabitants, and quotes many well-attested facts to prove that persons have lived a long time buried under snow and earth. This at least is probable in the present case, that many houses, exposed to lighter weight than others, may have been merely a little crushed; while the lower story, which in this part of Switzerland is frequently of stone, may have remained firm, and thus not a few of the inhabitants escaped unharmed. The consternation into which the neighbouring towns of Art and Schweitz were thrown, appears, indeed, to have left them incapable of contriving and executing those labours which an enlightened compassion would dictate.

The mountain of Rosenberg, as well as the Rigi and other mountains in its vicinity, are composed of a kind of brittle calcareous earth and pudding-stone, or aggregated rocks. Such a prodigious mass as that which fell, would easily crumble by its own weight, and spread over a wide surface. The bed of the mountain from which the desolation came, is a plane inclined from north to south. Its appearance, as it is now laid bare, would lead one to suppose that the mass, when first moved from its base,

slid for some distance before it precipitated itself into the valley. The height of the Spitsberg (the name of the projection which fell) above the lake and valley of Lowertz, was little less than two thousand feet. The composition of the chain of the Rigi, of which the Rosenberg makes a part, has always been an obstacle in the way of those system-makers who have built their hypotheses upon the structure of the Alps. It has nothing of granite in its whole mass; and, though nearly six thousand feet above the sea, is green, and even fertile, to its summit. It is composed of nothing but earth and stone, combined in rude masses. It is also remarkable that the strata of which it is composed are distinctly inclined from the north to the south; a character which is common to all rocks of this kind through the whole range of the Alps, as well as to the greater part of calcareous, schistous, and pyritous rocks, and also to the whole chain of the Jura.

It was about a week after the fall of the mountain that our route through Switzerland led us to visit this scene of desolation; and never can I forget the succession of melancholy views which presented themselves to our curiosity. Picture to yourself a rude and mingled mass of earth and stones, bristled with the shattered part of wooden cottages, and with thousands of heavy trees torn up by the roots, and projecting in every direction. In one part you might see a range of peasants' huts which the torrent of earth had reached with just force enough to overthrow and tear in pieces, but without bringing soil enough to cover them. In another were mills broken in pieces by huge rocks separated from the top of the mountain, which were carried high up the opposite side of the Rigi. Large pools of water were formed in different parts of the ruins, and many little streams, whose usual channels had been filled up, were bursting out in various places. Birds of prey, attracted by the smell of dead bodies, were hovering all over the valley. But the general impression made upon us by the sight of such an extent of desolation, connected too with the idea that hundreds of wretched creatures were at that moment alive, buried under a mass of earth, and inaccessible to the cries and labours of their friends, was too horrible to be described or understood. As we travelled along the borders of this chaos of ruined buildings, a poor peasant, bearing a countenance ghastly with woe, came up to us to beg a piece of money. He had three children buried under the ruins of a cottage, which he was endeavouring to clear away. A little farther on, we came to an elevated spot which overlooked the whole scene. Here we found a painter seated on a rock, and busy in sketching its horrors. He had chosen a most favourable point. Before him, at the distance of more than a league, rose the Rosenberg, from whose bare side had rushed the destroyer of all this life and beauty. On his right was the lake of Lowertz, partly filled with the earth of the mountain. On the banks of this lake was all that remained of the town of Lowertz. Its church was demolished, but the tower yet stood, and the ruins, shattered but not thrown down. The figures which animated this part of the drawing were a few miserable peasants, left to grope among the wrecks of their village. The foreground of the picture was a wide desolate sweep of earth and stones, relieved by the shattered roof of a neighbouring cottage. On the left hand spread the blue and tranquil surface of the lake of Zug, on the margin of which yet stands the pleasant village of Art, almost in contact with the ruins, and trembling even in its preservation.

We proceeded, in our descent, along the side of the Rigi, towards the half-buried village of Lowertz. Here we saw the poor curate, who is said to have been a spectator of the fall of the mountain. He saw the torrent of earth rushing towards his village, overwhelming half his people, and stopping just before his door. What a situation! He appeared, as we passed, to be superintending the labours of some of the survivors who were exploring the ruins of the place. A number of new-made graves, marked with a plain pine cross, showed where a few of the wretched victims of this catastrophe had just been interred.

The immediate cause of this calamitous event is not yet sufficiently ascertained, and probably never will be. The fall of parts of hills is not uncommon, and in Switzerland especially there are several instances recorded of the descent of large masses of earth and stone. But so sudden and extensive a ruin as this, was perhaps never produced by the fall of a mountain. It can be compared only to the destruction occasioned by the tremendous eruptions of *Etna* and *Vesuvius*. Many persons suppose that the long and copious rains which they have lately had in this part of Switzerland, may have swelled the fountains in the Rosenberg sufficiently to push this part of the mountain off its inclined base. But we saw no marks of streams issuing from any part of the bed which is laid bare. Perhaps the consistency of the earth in the interior of the mountain was so much altered by the moisture which penetrated into it, that the projection of the Spitsberg was no longer held by a sufficiently strong cohesion, and its own weight carried it over. Perhaps, as the earth is calcareous, a kind of fermentation took place sufficient to loosen its foundations. But there is no end to conjectures. The mountain has fallen, and the villages are no more. Several travellers, or rather strangers, have been destroyed; but whether they were there on business or for pleasure, I know not. Among them are several respectable inhabitants of Berne; and a young lady of fine accomplishments and amiable character, whose loss is much lamented."

BROSE AND BUTTER.

THE licentiousness and thoughtlessness of Charles the Second have become proverbial, and his good nature, which qualifies these, but ill atones for his ingratitude to those who suffered forfeiture and persecution in his cause. When he remained in Scotland, suffering the rebuke and censure of austere Presbyterians, before the battle of Worcester, his chief confidant and associate was the Laird of Cockpen, called by the nick-naming manners of those times, "Blythe Cockpen." He followed Charles to the Hague, and by his skill in playing Scottish tunes, and